

Cardiovascular diseases prevention in Poland: results of WOBASZ and WOBASZ II studies

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Abstract

Background: Cardiovascular diseases are the main cause of morbidity and an important cause of disability and premature death in European countries. Current guidelines recommend prevention delivery by physicians during medical consultations.

Aim: We sought to evaluate the prevention support offered by Polish physicians in 2013–2014 compared to 2003–2005, and its determinants.

Methods: The data from two population surveys were analysed: WOBASZ (6392 men and 7153 women, aged 20–74 years, screened in 2003–2005) and WOBASZ II (2751 men and 3418 women, aged ≥ 20 years, screened in 2013–2014). For comparison analysis, the population of WOBASZ II was restricted to persons aged 20–74 years. Prevention delivery was assessed using a questionnaire.

Results: Overall, 64% of men and 75% of women screened in 2003–2005 consulted their physicians at least once in the preceding year; 10 years later these rates were 70% and 82%, respectively. In both studies, 70% of respondents recalled having received one piece of prevention advice during a medical consultation. One-third of participants neither received any prevention advice nor had their blood pressure or cholesterol level measured. In WOBASZ II we observed a significant increase in the frequency of counselling regarding smoking cessation, nutrition, and increased physical activity, as well as in the frequency of cholesterol measurements, compared to WOBASZ. The prevention support was related to the health status.

Conclusions: The prevention support in the years 2013–2014 was better than in 2003–2005, but was still insufficient. About one-third of participants did not receive any preventive advice. The prevention support was offered more often to patients with worse health status.

Key words: cardiovascular disease prevention, health survey

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INTRODUCTION

Cardiovascular diseases (CVDs), especially coronary artery disease (CAD), are the main cause of morbidity and an important cause of disability and premature death in European countries, irrespective of the systematic decrease in CVD deaths both in Europe [1] and in Poland [2]. CVD preven-

tion at the individual and population levels is one of the main challenges for medical staff and politicians. CVDs are strongly associated with an unhealthy lifestyle, particularly with smoking, an unhealthy diet, low level of physical activity, and psychological stress [3]. Analysis using the IMPACT model showed that a decrease in CAD mortality was associ-

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ated with positive changes in lifestyle by more than 50% [4]. In the INTERHEART study, it was found that nine modifiable risk factors (smoking, hypertension, diabetes, abnormal lipid levels, dietary habits, alcohol consumption, abdominal obesity, low level of physical activity, and psychosocial factors) were responsible for 90% of the risk of myocardial infarction [5]. Preventive guidelines highlighted the necessity of promoting a healthy lifestyle and early identification of patients with high cardiovascular (CV) risk by all health professionals [1]. Professional support is needed in smoking cessation, adoption of a healthy diet, and increasing physical activity [1]. Health care systems are mainly dominated by acute care, medical technology, and pharmacological treatment, while lifestyle modification is judged as a personal matter [6].

The aim of the study was to evaluate the prevention counselling in Poland in the years 2013–2014 compared to 2003–2005, and its determinants.

METHODS

Study population and methods of sample drawing

As part of the Multi-centre National Population Health Examination Survey, WOBASZ (2003–2005), 6392 men and 7153 women, aged 20–74 years were screened. WOBASZ II study (2013–2014) included 2751 men and 3418 women, aged ≥ 20 years. Sample drawing (from the electronic register — PESEL database) had three stages and was stratified according to voivodship, type of commune, and gender. For each voivodship, two small, two medium, and two large communes were selected. WOBASZ II covered the same communes as those participating in the WOBASZ study, however the sample of individuals drawn in each commune was independent. The aims and methods of the WOBASZ and WOBASZ II studies have been described previously [7–9]. Both studies were accepted by the Local Ethics Committee, and all respondents gave written, informed consent to participate. The examination was conducted by trained nurses or interviewers, and several quality evaluations were performed by supervisors from the coordinating centre.

The following groups of participants were selected: persons subjected to secondary prevention (with diagnosed CAD or a history of stroke), persons subjected to primary prevention (with high CV risk defined as the presence of CVD risk factors: smoking, diabetes, hypertension, and lipid disorders, but without diagnosed CAD or a history of stroke), and persons without CVD risk factors.

Hypertensive persons were defined as those with arterial blood pressure $\geq 140/90$ mmHg (the mean from the second and third measurements) or on antihypertensive treatment. Hypercholesterolaemia was defined as total cholesterol level ≥ 5.0 mmol/L or low-density lipoprotein-cholesterol level ≥ 3.0 mmol/L or triglyceride level ≥ 1.7 mmol/L or the presence of hypolipemic treatment. Participants who regularly smoked at least one cigarette per day were classi-

fied as persons with a smoking habit. Subjects with glucose concentration ≥ 7.0 mmol/L or on hypoglycaemic treatment were classified as diabetic.

Evaluation of preventive action

Preventive action was evaluated based on a questionnaire gathering information on the frequency of lifestyle modification advice offered during medical consultation (recommendations regarding proper nutrition, increase in physical activity and smoking cessation — in the case of active smokers) as well as the frequency of blood pressure measurement and blood cholesterol concentration measurement performed within the preceding year.

Statistical analysis

All analyses were done separately for men and women. For comparison of frequencies of preventive counselling in particular groups and between the two studies, the model of analysis of covariance with adjustment for age was used (populations of WOBASZ and WOBASZ II differed significantly in terms of the mean age of study participants), and the results were shown as frequencies with confidence intervals. To evaluate the contribution of particular types of medical practice in medical consultations and in preventive counselling, we took into account only persons who gave a single answer to the question about the most frequently consulted medical practitioner (consequently, 694 persons from WOBASZ and 656 persons from WOBASZ II, who gave more than one answer, were not included into these analyses). For the assessment of the relationship between preventive support and selected factors multivariate logistic regression was used. The level of statistical significance was set at $p < 0.05$. The analyses were done using SAS software version 9.2 (SAS Institute, Inc., Cary, NY, USA).

RESULTS

Overall, 63.8% of men and 75.3% of women in the WOBASZ study visited their physician at least once a year. In WOBASZ II, these rates were slightly higher (75.3% of men, 81.5% of women) (Table 1). In both study periods, the most frequently consulted doctor was a general practitioner (GP) (more than 80% of cases), and private specialist practices were visited the least often. The proportion of medical practice types in medical consultations did not differ between the studies, except for men in WOBASZ II, who consulted private specialist practitioners more often compared to men in WOBASZ (Table 2). In the analysis of the preventive action according to the type of medical practice, we found a significant increase in the frequency of preventive counselling between the years 2003–2005 and 2013–2014 only for GPs; the percentage of at least two preventive consultations during one medical visit increased from 36.6% to 45.5% in men and from 35.3% to 41.2% in women, respectively (Table 3). Additionally, both in WOBASZ and WOBASZ II, the best preventive support (the

Table 1. Prevention support in the general population in Poland based on the results of the WOBASZ and WOBASZ II studies (adjusted for age)

	WOBASZ — % (95% CI)	WOBASZ II — % (95% CI)
Men		
Blood pressure measurement*	55.7 (58.4–60.9)	60.1 (57.9–62.2)
Dietary consultation*	24.9 (23.7–26.2)	31.9 (29.9–34.0)
Smoking cessation consultation*	52.1 (50.2–53.8)	57.5 (53.9–61.0)
Physical activity counselling*	18.2 (17.1–19.3)	26.6 (24.3–28.5)
Cholesterol measurement (within previous year)	22.8 (21.6–24.0)	57.8 (55.3–60.3)
Prevention delivery (at least one of the above-mentioned)	68.5 (67.5–69.5)	68.3 (66.7–70.0)
Medical consultation (within previous year)	63.8 (62.7–64.9)	69.6 (67.8–71.4)
Women		
Blood pressure measurement*	64.7 (63.5–65.9)	60.1 (58.2–62.1)
Dietary consultation*	27.9 (26.7–29.1)	29.4 (27.5–31.3)
Smoking cessation consultation*	48.4 (46.1–50.7)	53.0 (49.1–56.9)
Physical activity counselling*	16.9 (15.8–17.9)	24.1 (22.4–25.8)
Cholesterol measurement (within previous year)	27.9 (26.7–29.2)	58.3 (55.9–60.6)
Prevention delivery (at least one of the above-mentioned)	69.1 (68.1–70.0)	68.1 (66.6–69.6)
Medical consultation (within previous year)	75.3 (74.4–76.2)	81.5 (80.0–82.9)

*Usually during a medical consultation; CI — confidence interval

Table 2. Proportions of various types of medical practice in medical consultations (adjusted for age)

Type of medical practice	WOBASZ — % (95% CI)	WOBASZ II — % (95% CI)
Men		
General practitioner's practice	86.9 (86.1–87.7)	85.7 (84.3–87.1)
Specialist medical practice (public)	9.4 (8.7–10.1)	9.3 (8.1–10.5)
Specialist medical practice (private)	3.6 (3.2–4.1)	5.0 (4.2–5.8)
Women		
General practitioner's practice	86.5 (85.7–87.3)	84.6 (83.3–85.9)
Specialist medical practice (public)	8.9 (8.2–9.5)	10.1 (9.1–11.2)
Specialist medical practice (private)	4.7 (4.2–5.1)	5.2 (4.5–6.0)

CI — confidence interval

Table 3. Prevention support (*) by type of medical practice (adjusted for age)

Types of medical practices	WOBASZ — % (95% CI)	WOBASZ II — % (95% CI)	p
Men			
General practitioner's practice	36.6 (35.4–37.8)	45.4 (43.4–47.5)	< 0.0001
Specialist medical practice (public)	48.4 (44.6–52.1)	54.7 (48.3–61.2)	NS
Specialist medical practice (private)	40.3 (34.5–46.1)	38.4 (29.9–46.9)	NS
Women			
General practitioner's practice	35.3 (34.2–36.4)	41.3 (39.5–43.1)	0.0006
Specialist medical practice (public)	42.4 (38.8–46.0)	40.2 (34.7–45.7)	NS
Specialist medical practice (private)	34.6 (29.8–39.3)	32.7 (25.2–40.1)	NS

*Percentage of persons recalling at least two preventive consultations during a medical visit; CI — confidence interval; NS — not significant

Table 5. The association between prevention support (*) and selected factors

	OR _{pc} (95% CI)	p
Men		
Age (Δ 1 year)	1.04 (1.03–1.04)	< 0.001
Status:		< 0.001
Without risk factors	1.0	
Primary prevention	2.57 (2.08–3.17)	
Secondary prevention	1.22 (1.11–1.34)	
Study:		< 0.001
WOBASZ	1.0	
WOBASZ II	9.10 (7.04–11.78)	
Women		
Age (Δ 1 year)	1.04 (1.04–1.05)	< 0.001
Status:		< 0.001
Without risk factors	1.0	
Primary prevention	2.13 (1.83–2.48)	
Secondary prevention	4.96 (4.03–5.11)	
Study:		0.0080
WOBASZ	1.0	
WOBASZ II	1.13 (1.03–1.24)	

*OR_{pc} — odds ratio for at least two prevention consultations during a medical visit; CI — confidence interval

highest proportion of persons recalling at least two preventive consultations) was given by specialists from public medical practices. In both studies there were significant differences between the frequency of preventive consultations offered to men by GPs vs. public specialist practitioners. For women such differences were present only in the WOBASZ study (Table 3).

At least one piece of preventive advice during a medical consultation was offered to 68% of men and women in both studies (Table 1), which means that one-third of respondents did not receive any lifestyle modification advice or had their blood pressure and cholesterol concentration measured.

The most common element of CVD prevention was blood pressure measurement, which was performed during about 60% of medical visits in both study periods, followed by smoking cessation advice. Recommendation of increased physical activity was offered the least often. In the years 2013–2014, compared to 2003–2005, the frequency of smoking cessation and dietary advice, physical activity counselling, and cholesterol concentration measurements increased in men, while only the frequency of physical activity counselling and cholesterol concentration measurements increased in women (Table 1). Particular attention should be given to the more than twofold increase in cholesterol concentration measurements in 2013–2014 compared to 2003–2005. Even

among subjects without any risk factors in WOBASZ II, more than 45% of participants had their cholesterol concentration measured during the previous year. In the WOBASZ study this rate ranged between 13% and 18% (Table 4).

We can conclude that CVD diagnosis had a beneficial influence on the quality of medical care because lifestyle counselling as well as blood pressure and cholesterol measurements were performed more frequently in participants from the secondary prevention group, compared to the primary prevention subjects and the persons without CVD risk factors (Table 4). The preventive support in the secondary prevention population did not differ between WOBASZ and WOBASZ II, except for the significant increase in frequency of cholesterol concentration measurements in WOBASZ II. There was no difference between the preventive support given to the persons with history of CVD hospitalisation compared to those who were not hospitalised but were diagnosed with CAD or had a history of stroke (data not shown in a table). However, in both study periods, about one-third of men and women with CAD or a history of stroke did not receive sufficient preventive support.

In WOBASZ II, compared to the previous study, preventive support in the primary prevention group improved in terms of the frequency of cholesterol concentration measurements as well as nutrition and physical activity counselling. However, recommendations regarding a healthy diet and increased physical activity were still given to too few patients (only to about a quarter of subjects visiting their physicians).

A significant association between the quality of preventive support and age, health status and study period was confirmed. Participants who were offered two or more prevention consultations at a single medical visit were more often in the primary or secondary prevention group and were more often examined in the years 2013–2014 (WOBASZ II) rather than 2003–2005 (WOBASZ) (Table 5).

DISCUSSION

Cardiovascular disease prevention was defined as a coordinated set of actions at the individual or population level, which are aimed at eliminating or minimising the impact of CVD and its related disabilities [10]. According to the World Health Organization, 75% of CVD deaths were preventable by promoting changes in lifestyle towards risk-factor reduction. CVD prevention should be targeted both at individuals (especially those with a moderate or high CVD risk and CAD patients) and at the general population; moreover, it should be a long-term action. Prevention guidelines, published successively in the years 1994, 1998, 2012, and 2016, recommended smoking cessation, promoting free-time physical activity, a healthy diet, reduction of overweight and hypertension, maintaining the cholesterol concentration < 5 mmol/L, and avoiding stress [1]. In 2016 greater attention was paid to

Table 4. Prevention support according to health status (adjusted for age)

	WOBASZ — % (95% CI)					
	Men			Women		
	Without risk factors (n = 725)	Primary prevention (n = 5413)	Secondary prevention (n = 757)	Without risk factors (n = 1424)	Primary prevention (n = 5495)	Secondary prevention (n = 740)
Blood pressure measurement*	51.3 (47.8–54.8)	54.1 (52.9–55.3)	71.3 (67.8–74.7)	53.5 (50.9–56.0)	56.6 (55.4–57.8)	70.4 (66.9–73.8)
Dietary consultation*	14.1 (11.1–17.1)	19.4 (18.3–20.4)	45.7 (42.7–48.7)	16.6 (14.4–18.9)	21.5 (20.4–22.5)	41.5 (38.5–44.6)
Smoking cessation consultation*	–	50.2 (48.3–52.1)	71.1 (64.4–77.9)	–	46.3 (44.1–48.7)	64.7 (54.3–75.1)
Physical activity counselling*	9.3 (6.7–11.8)	14.3 (13.3–15.2)	34.4 (31.7–37.1)	10.1 (8.1–12.0)	13.4 (12.5–14.3)	26.9 (24.3–29.5)
Cholesterol measurement	13.4 (10.5–16.3)	16.3 (15.3–17.4)	43.7 (40.8–46.5)	18.3 (16.1–20.5)	20.8 (19.8–21.9)	39.5 (36.4–42.5)
Prevention delivery (at least one of the above-mentioned)	57.5 (54.2–60.8)	67.9 (66.8–69.1)	83.2 (79.9–86.5)	60.9 (58.4–63.3)	69.2 (68.1–70.4)	78.6 (75.3–81.9)
Medical consultation	66.9 (63.4–70.4)	60.3 (59.0–61.9)	86.0 (82.5–89.5)	79.9 (76.3–86.3)	82.7 (81.3–84.2)	92.8 (88.6–97.1)
	WOBASZ II — % (95% CI)					
	Men			Women		
	Without risk factors (n = 226)	Primary prevention (n = 2140)	Secondary prevention (n = 354)	Without risk factors (n = 480)	Primary prevention (n = 2537)	Secondary prevention (n = 336)
Blood pressure measurement*	53.8 (47.4–60.1)	56.9 (54.9–58.9)	74.9 (70.0–80.0)	52.1 (47.7–56.5)	58.8 (57.1–60.6)	66.2 (60.1–71.4)
Dietary consultation*	15.6 (9.4–21.7)	28.1 (26.1–29.9)	45.8 (40.8–52.4)	21.6 (17.3–25.9)	27.5 (25.8–29.2)	37.3 (32.2–42.3)
Smoking cessation consultation*	–	57.3 (53.6–60.9)	73.9 (61.6–83.3)	–	55.4 (51.6–59.3)	72.3 (56.9–87.7)
Physical activity counselling*	13.6 (7.7–19.5)	23.6 (21.8–25.5)	37.9 (33.1–42.7)	11.4 (7.5–15.4)	21.0 (19.4–22.6)	28.6 (24.0–33.2)
Cholesterol measurement	45.7 (34.6–56.9)	54.7 (52.0–57.5)	74.9 (69.0–80.9)	47.2 (39.3–55.0)	58.7 (56.3–61.1)	64.2 (58.2–70.3)
Prevention delivery (at least one of the above-mentioned)	61.8 (55.9–67.6)	69.4 (67.5–71.2)	83.6 (78.8–88.4)	61.2 (57.2–65.2)	73.3 (71.6–74.9)	77.4 (72.6–88.2)
Medical consultation	68.8 (62.8–74.7)	69.0 (67.2–70.9)	88.7 (83.6–93.3)	74.7 (72.3–77.1)	73.2 (72.1–74.3)	89.3 (86.0–92.6)

*Usually during a medical consultation; CI — confidence interval

the population-level approach, and there was more focus on young people, women, and particular diseases.

Preventive counselling should be a part of each medical consultation because it was proven that behaviour interventions, such as “pep talk,” increased the efficacy of prevention [11]. Such interventions are particularly recommended for high-risk persons [12–14]. Studies from 1990 to 1998 showed that preventive counselling was offered during 20% to 60% of medical visits [15, 16]. As was shown in the EUROASPIRE study, there was a discrepancy between preventive guidelines and clinical practice [6]. The main problem was related to the lack of time for such interventions. In clinical practice, preventive counselling was offered mainly to persons with diagnosed CVD. The results of an American study on physicians’ perception of their role and the barriers in preventive action showed that primary prevention was not considered as a priority in relation to the rapid effects of the secondary prevention. The majority of physicians thought that preventive support was neither a major part of their job nor an effective utilisation of their work time, which, in their opinion, should instead be spent on the diagnosis and treatment of specific diseases. At the same time, they thought that preventive support should be turned over to nurses or dietitians [17]. Recently, a great deal of attention has been paid to projects coordinated by nurses [18, 19].

Experts from the Polish Cardiac Society initiated The Optimal Model of Comprehensive Rehabilitation and Secondary Prevention, a novel project aimed at the management of complex cardiac rehabilitation and secondary prevention in the whole of Poland [20]. It was shown that secondary prevention after acute coronary syndrome is an extremely important and cost-effective procedure.

The results of WOBASZ and WOBASZ II showed better preventive action in the years 2013–2014 compared to 2003–2005. Particularly good improvement was observed in the frequency of cholesterol concentration measurements. In the years 2013–2014 cholesterol measurements were confirmed by twice as many men and women than 10 years earlier. Lipid abnormalities were the most frequently observed and the worst controlled CVD risk factor in Poland [21, 22]. Screening tests for hyperlipidaemia should be common in the general population and should be performed in subjects with at least one CVD risk factor, i.e. arterial hypertension, smoking habit, diabetes, and overweight, as well as in subjects with CVD, chronic kidney disease, or autoimmune disorder, and additionally in men aged over 40 years and women aged over 50 years. If the patient’s cholesterol concentration is within the normal range, the measurement should be done every three to five years, but in persons with hyperlipidaemia, it should be repeated every year after reaching the target values [23]. Recommendations regarding a healthy diet and increased physical activity were more often offered to patients in 2013–2014 than 10 years earlier, but still it was not common

enough. Moreover, there was a relationship between preventive support and the health status defined as the lack or the presence of CVD risk factors (but excluding the subjects with CVD, CAD, or a history of stroke), showing better medical care in patients with poor health status.

Primary care physicians play the most important role in CVD prevention because two-thirds of the population visit their GPs at least once a year and 90% at least once in five years [24]. During one year Polish GPs had contact with about two-thirds of the Polish adult population (60% of men and 80% of women). In WOBASZ and WOBASZ II, at least one preventive counselling session was recalled by 68% of both men and women, so more than one-third of patients attending their physicians did not receive any preventive support, including about 20% of persons after myocardial infarction or stroke. The highest percentage of respondents without any preventive support (about 40%) were persons with no risk factors, even though these persons visit their GPs as often as other people. Even healthy subjects, irrespective of age, should lead a healthy lifestyle, so preventive consultations should be given to everyone.

We found that not every patient visiting their GPs, during both study periods, had their blood pressure measured, and the frequency of these measurements did not increase over time. As reported by the respondents of the WOBASZ studies, blood pressure measurement was made in about 60% of medical appointments and in more than 70% of CAD or stroke patients’ consultations.

In a study evaluating the medical documents from four GP practices in the Mazowieckie voivodship, data on blood pressure were not present in 43% of cases, which means that almost 50% of patients did not have their blood pressure checked or it was not recorded [25].

Preventive action should involve popularisation of active lifestyle (at least 150 min of moderate or 75 min of vigorous aerobic physical activity per week in healthy persons). It is well known that physical activity plays an important role in the reduction of premature death risk and in the prevention of CVD, diabetes, cancer, depression, and many other diseases [26]. However, physical activity counselling is not frequent enough in the everyday physician’s practice. Despite the significant increase in the frequency of physical activity counselling between analysed studies (especially in the primary prevention group), we found that this type of advice was still given to too small a group of patients consulting their GPs (from about 10% of persons without risk factors to 30% of persons subjected to secondary prevention). In the American study, based on direct observation, advice on physical activity was offered during 22.3% of medical consultations, and at the same time the rate reported by patients in a questionnaire was only 13% [25]. In our study such recommendations were given more often to men and persons with risk factors or chronic diseases [27]. In both studies discussed hereby, the percentage of respondents (from about one-fourth to one-fifth) who recalled physical ac-

tivity consultations during a medical visit was much lower than in the EUROPREVIEW study (55%), a cross-sectional survey conducted in 2008–2009 in 22 European countries, covering primary care patients [28]. In the opinion of American GPs, the main problems related to giving such counselling were the lack of time, the lack of adequate knowledge to recommend particular types of exercise, and the lack of belief in the possibility of changing patients' behaviour to a healthier level.

A proper diet has a significant impact on health. A diet low in saturated fat, with a focus on wholegrain products, vegetables, fruit, and fish should be recommended [1]. In both WOBASZ studies, dietary consultations were not a frequent practice (25% to 30% of respondents recalled such recommendations) and were given predominantly to persons with diagnosed CVD (about 40%–45% of cases). Similar results were obtained by Eaton et al. [29]; the dietary support was given during about 25% of outpatient visits and in about 30% of visits of patients suffering from chronic diseases. In the Polish data from the Cracovian Programme for Secondary Prevention of Ischaemic Heart Disease (the Polish part of EUROASPIRE), performed in five city hospitals and covering patients with myocardial infarction, dietary consultations, as declared by patients, were much more common and reached 71.2% for recommendations of increased fish intake and 84.0% for recommendations of reduced fat intake [30].

Thorndike et al. [31] showed, similarly as in WOBASZ and WOBASZ II, that about 70% of smokers visit their GP at least once a year, so outpatient clinics might be a perfect place for smoking cessation interventions. Even if physicians think that smoking cessation advice has a low priority among their patients, and that it is time-consuming and ineffective [32], patients anticipate such advice; e.g., 46.3% of primary care patients from the EUROPREVIEW study would like to receive advice regarding quitting smoking and 63.4% would like to discuss it with their GPs [28], and consider it as integral part of medical care [33]. In another American study, with physicians and nurses as participants, 69% of physicians declared that they always or almost always recommended their patients to stop smoking [34]. In both studies discussed hereby the percentage of such advice was lower (about 50%); however, a different methodology of data collection was applied: in the American study it was physicians who answered a questionnaire (overestimated data), whereas in the WOBASZ studies the patients were the respondents (underestimated data). In both WOBASZ studies, the highest proportion (> 70%) of smokers who recalled having received smoking cessation advice during a single medical consultation were secondary prevention subjects. Considering only the population of persons subjected to secondary prevention, and comparing our data with Cracovian EUROASPIRE data, the rates of persons recalling a smoking intervention were similar [30].

In conclusion, the results of the Multi-centre National Population Health Examination Surveys (WOBASZ and

WOBASZ II) showed better prevention support in the years 2013–2014 compared to 2003–2005; however, it was still insufficient in terms of the frequency of prevention recommendations. About one-third of persons visiting physicians did not receive any preventive counselling. The prevention support was offered more often to patients with worse health status.

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WHAT IS NEW?

The results of WOBASZ and WOBASZ II studies allowed the evaluation and comparison of the preventive support in the years 2003–2005 and 2013–2014. To the best of our knowledge, this is the only research paper comparing the preventive action in Poland in a 10-year period. The authors are convinced that the results of the study will be of interest to the Polish medical community.